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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,359	02/12/2002	Atsushi Hayakawa	CU-2845	5741

26530 7590 07/01/2004

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EXAMINER

MCKANE, ELIZABETH L

ART UNIT PAPER NUMBER

1744

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/074,359

Applicant(s)

HAYAKAWA ET AL.

Examiner

Leigh McKane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) 9-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-8 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Election/Restrictions

1. Claims 9-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5 November 2003.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 7 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 7 and 18 the terminology “blast” renders the claim vague and indefinite because it is unclear if the “blast” is one of air, gas, etc.. Moreover, the specification does not describe the meaning of this term.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1, 5-8, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raniwala in view of Denis et al (U.S. Patent No. 5,308,233) and Hada et al.

With respect to claim 1, Raniwala discloses a PET bottle sterilization system and method wherein the method comprises introducing a sterilizing agent in the form of atomized liquid droplets into the surface of a bottle to be sterilized. Once contacting the bottle surfaces, these droplets form a thin liquid film thereon. The film is maintained on the surface for a sufficient time and in sufficient concentration so that the sterilizing agent reduces the micro-organism concentration on the surfaces to a desired level of sterility (see paragraph [0007]). The atomized droplets may be introduced in various physical states including but not limited to a fog, a nebula, a vapor, a mist or an aerosol suspension (see paragraph [0008]). After the sterilizing agent is allowed to remain on the surfaces for sufficient time the residual sterilant agent is then removed from the bottle. This can be performed by rinsing the bottle with water, either by spraying the bottle with rinse water or by immersing the bottle in a water bath (see paragraphs [0011] and [0012]). Raniwala fails to teach or suggest preheating the bottle and neck, as well as, heating the bottle into which the mist has been supplied.

Denis et al discloses a method of thermally treating PET containers after forming wherein the bottle **41** is exposed to heating plates **44** for heating the body and heating tubes **47** for heating the neck. See Figure 8. As Denis et al teaches that this thermal treatment provides thermal stability to the containers for later use, it would have been obvious to pretreat the PET containers of Raniwala using the method of Denis et al.

Hada et al. discloses a similar apparatus and method for disinfecting containers. The apparatus comprises a disinfectant chamber (12) which includes a preheating zone

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(35), and exposure zone (36) and a drying zone (37). The preheating zone (35) supplies hot air to the container in order to preheat the container prior to a supply of disinfectant mist. The exposure zone (36) supplies a hydrogen peroxide mist into the interior of the containers through nozzles (42). After the mist has been applied, the containers are injected with hot air at the drying zone (37) through nozzles (44) in order to heat and dry the containers. In the drying zone (37), the hydrogen peroxide is rapidly removed by drying from the surfaces of the containers (see column 1, line 38-column 2, line 28, column 3, lines 6-60 and column 4, lines 1-21).

As Hada et al. teaches that the injection of hot air into the containers promotes rapid removal of the hydrogen peroxide, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Raniwala to include the step of heating the inside of the containers after application of the sterilant in order to improve sterilant removal from the bottles.

With respect to claims 5 and 6, Raniwala discloses the step of maintaining the sterilant on the surface of the bottle for a period of time sufficient to reduce microorganism concentration on the surfaces to a desired level of sterility.

As to claim 18, although Denis et al teaches using radiant heat to heat the neck and bottle portion, it is admitted by Denis et al that hot air is also known. See col.5, lines 54-57. Although not a preferred embodiment, Denis et al discloses the known use of using hot air to preheat a bottle for the purposes of thermal treatment.

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6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raniwala in view of Denis et al and Hada et al as applied to claim 1 above, and further in view of DE 4212433 A1 to Strohn.

Hada et al. and Raniwala do not specifically teach a step of rinsing the inside of the container wherein a heated rinsing fluid is supplied to the container. Strohn discloses a machine for cleaning bottles which comprises several treatment zones. The treatment zones are a series of liquid baths. The first bath has the effect of softening the dirt on the bottles while the second bath is an alkali bath acting like soap. The first two baths are heated to a sterilizing temperature of 58 degrees C. The third bath is a water rinse bath heated to the same temperature as the first two baths. The bottles are sterilized by heat but the machine avoids melting the plastic bottles (see translated abstract). Therefore, it would have been obvious to one of ordinary level of skill in the art at the time the invention was made to further modify the invention of Raniwala and replace the rinse water with a heated rinse water as taught by Strohn in order to further enhance sterilization of the bottles while they are rinsed.

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.


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Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Wednesday (7:15 am-4:45 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on 571-272-1275. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leigh McKane
Primary Examiner
Art Unit 1744

elm
28 June 2004